MYCOTAXON

Volume 110, pp. 47–51 *October–December 2009*

Substitute names for later homonyms of five species and validation of the names of eight species of fossil fungi from Indian Tertiary sediments

R.K. Saxena

rksaxena2207@yahoo.com
Birbal Sahni Institute of Palaeobotany
53 University Road, Lucknow-226 007, India

Abstract — Substitute names are proposed for the later homonyms of five accepted species of fossil fungi recorded from Indian Tertiary sediments: *Diporicellaesporites samantiae* (≡ *D. elsikii* B. Samant & Tapaswi), *Monoporisporites circularis* (≡ *M. hammenii* B. Samant & Tapaswi), *Multicellaesporites kumarii* (≡ *M. elsikii* (Ramanujam & Srisailam) P. Kumar), *Pluricellaesporites guptae* (≡ *P. minutus* A. Gupta), and *Pluricellaesporites suratensis* (≡ *P. elsikii* B. Samant & Tapaswi). In addition, the author provides information regarding repository of the holotypes to validate eight species names and propose new names to replace two original epithets (in parentheses) that are already in use for different taxa in the same genus: *Brachysporisporites magnus*, *Colligerites trochus*, *Dicellaesporites elsikii*, *Diporisporites bhavnagarensis* ("*D. granulatus* B. Samant"), *Multicellaesporites dilcheri*, *M. psilatus* ("*M. elongatus* B. Samant"), *Phragmothyrites ramanujamii*, and *Pluricellaesporites globatus*.

Key words — fossil fungal spores, microthyriaceous fungi, species nomenclature, Tertiary, India

Introduction

During palynological research on Indian Tertiary sediments, the author encountered names of five species of fossil fungi that are later homonyms; i.e. each name is spelled exactly like a name based on a different type that was previously and validly published for the taxon of the same rank. Such later homonyms are illegitimate and are to be rejected under Articles 45.3 and 53.1 of the International Code of Botanical Nomenclature (McNeill & al. 2006). These species names are therefore replaced by substitute names (nomina nova).

Substitute names

Diporicellaesporites samantiae R.K. Saxena, **nom. nov.**

MycoBank MB 515005

≡ *Diporicellaesporites elsikii* B. Samant & Tapaswi, Gondwana Geol. Mag. 15(2): 25–26, fig. 2.2. 2000, non Mart.-Hern. & Tom.-Ort. 1989.

Etymology: The epithet honours Dr. Bandana Samant of the Department of Geology, Banaras Hindu University, Varanasi, India.

Monoporisporites circularis R.K. Saxena, **nom. nov.**

MycoBank MB 515007

≡ *Monoporisporites hammenii* B. Samant & Tapaswi, Gondwana Geol. Mag. 15(2): 28, fig. 2.5. 2000, non Mart.-Hern. & Tom.-Ort. 1989.

Etymology: The epithet refers to the circular shape of the fungal spores.

Multicellaesporites kumarii R.K. Saxena, **nom. nov.**

MycoBank MB 515008

≡ *Staphlosporonites elsikii* Ramanujam & Srisailam, Botanique 9: 122, pl. 1, figs. 6–7. 1980.

≡ *Multicellaesporites elsikii* (Ramanujam & Srisailam) P. Kumar, Rev. Palaeobot. Palynol. 63: 23. 1990, non R.K. Kar & R.K. Saxena 1976.

Etymology: The epithet honours Dr. Pramod Kumar of the Birbal Sahni Institute of Palaeobotany, Lucknow, India.

Pluricellaesporites guptae R.K. Saxena, **nom. nov.**

MycoBank MB 515010

≡ *Pluricellaesporites minutus* A. Gupta, Tertiary Research 21: 138, pl. 2, fig. 22, text-fig. 2c. 2002, non Kalgutkar & Janson. 2000.

Etymology: The epithet honours Dr. Asha Gupta of the Birbal Sahni Institute of Palaeobotany, Lucknow, India.

Pluricellaesporites suratensis R.K. Saxena, **nom. nov.**

MycoBank MB 515012

≡ *Pluricellaesporites elsikii* B. Samant & Tapaswi, Gondwana Geol. Mag. 15(2): 28–29, fig. 2.12. 2000, non Kalgutkar 1997.

Etymology: The epithet refers to the Surat district of Gujarat (western India), where the type locality of the species is situated.

Validation of species names

Two species described by Samant (2000), "*Diporisporites granulatus*" and "*Multicellaesporites elongatus*" would also have been later homonyms, but the names were not validly published because the place of deposition of the type was not stated. New names for these species are validly published below.

Diporisporites bhavnagarensis R.K. Saxena, **sp. nov.**

MycoBank MB 515013

Validating description and illustration: "*Diporisporites granulatus* B. Samant" in Geophytology 28: 12, 14, pl. 1, fig. 10. 2000.

Holotype: Pl. 1, fig. 10, slide no. C-70, 3; Geology Department, Nagpur University, Nagpur, India.

Etymology: In reference to the Bhavnagar district of Gujarat (western India), where the type locality of the species is situated.

Samant (2000) described the new species "*Diporisporites granulatus*" but did not validly publish the name as she did not state where the type is stored (McNeill & al. 2006: Art. 37.7). The species is here validated by the addition of the holotype location, obtained from personal communication with Dr. Bandana Samant.

Samant's epithet "*granulatus*" cannot be used because of the existence of *Diporisporites granulatus* P. Ke & Z.Y. Shi 1978.

Multicellaesporites psilatus R.K. Saxena, **sp. nov.**

MycoBank MB 515014

Validating description and illustration: "*Multicellaesporites elongatus* B. Samant" in Geophytology 28: 14, pl. 1, fig. 14. 2000.

Holotype: Pl. 1, fig. 14, slide no. C-111, 6; Geology Department, Nagpur University, Nagpur, India.

Etymology: In reference to the psilate spore wall of the fungal spores.

Samant (2000) described the new species "*Multicellaesporites elongatus*" but did not validly publish the name, as she did not cite where the type is stored (McNeill & al. 2006: Art. 37.7). The species is here validated by the addition of the holotype location, obtained from personal communication with Dr. Bandana Samant.

The epithet "*elongatus*" cannot be used because of the existence of *Multicellaesporites elongatus* Sheffy & Dilcher 1971.

Samant (2000) also described the following six species, all of which are invalid because their protologues contained no information regarding holotype locations (McNeill & al. 2006: Art. 37.7). All names are validated below, with each ascribed to B. Samant based on the original descriptions and illustrations. The holotypes are those designated by Samant and are stored in the Geology Department, Nagpur University, Nagpur, India (Dr. Bandana Samant, personal communication).

Brachysporisporites magnus B. Samant, **sp. nov.**

MycoBank MB 515015

Validating description and illustration: Geophytology 28: 11–12, pl. 1, figs. 1–2. 2000.

Holotype: Pl. 1, fig. 1, slide no. C-113, 2; Geology Department, Nagpur University, Nagpur, India.

Colligerites trochus B. Samant, **sp. nov.**

MycoBank MB 515017

Validating description and illustration: Geophytology 28: 12, pl. 1, fig. 3. 2000.

Holotype: Pl. 1, fig. 3, slide no. C-69, 4; Geology Department, Nagpur University, Nagpur, India.

Dicellaesporites elsikii B. Samant, **sp. nov.**

MycoBank MB 515018

Validating description and illustration: Geophytology 28: 12, pl. 1, fig. 7. 2000.

Holotype: Pl. 1, fig. 7, slide no. C-115, 6; Geology Department, Nagpur University, Nagpur, India.

Multicellaesporites dilcheri B. Samant, **sp. nov.**

MycoBank MB 515016

Validating description and illustration: Geophytology 28: 14–15, pl. 1, fig. 12. 2000.

Holotype: Pl. 1, fig. 12, slide no. C-112, 6; Geology Department, Nagpur University, Nagpur, India.

Phragmothyrites ramanujamii B. Samant, **sp. nov.**

MycoBank MB 515003

Validating description and illustration: Geophytology 28: 15, pl. 1, fig. 21. 2000.

Holotype: Pl. 1, fig. 21, slide no. C-112, 6; Geology Department, Nagpur University, Nagpur, India.

Pluricellaesporites globatus B. Samant, **sp. nov.**

MycoBank MB 515002

Validating description and illustration: Geophytology 28: 15, pl. 1, figs. 22–23. 2000.

Holotype: Pl. 1, fig. 22, slide no. C-116, 8; Geology Department, Nagpur University, Nagpur, India.

Acknowledgements

The author is grateful to Dr. Naresh C. Mehrotra, Director, Birbal Sahni Institute of Palaeobotany, Lucknow (India), for permission to publish the paper and to Dr. Bandana Samant of Banaras Hindu University, Varanasi (India), for providing information regarding repository of the holotypes. Thanks are also due to Prof. John McNeill, Director Emeritus, Royal Ontario Museum and Honorary Associate, Royal Botanic Garden, Edinburgh, Scotland (U.K.), and to Prof. Leon Stuchlik, Ex-Director, W. Szafer Institute of Botany, Polish Academy of Sciences, Krakow, Poland, for pre-submission peer review and helpful suggestions.

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